

Appl. No. 10/709,845
Amdt. dated February 15, 2006
Reply to Office action of November 16, 2005

REMARKS/ARGUMENTS

Claims 1-3, 7, 9 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by MASUMOTO (U.S. 5,418,583). Claims 4 and 8 are rejected under 35 U.S.C. 103(a) as
5 being unpatenable over MASUMOTO in view of applicant's admitted prior art. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatenable over MASUMOTO in view of WEI ET AL. (U.S. 2004/0145710). Claims 11-16 are rejected under 35 U.S.C. 103(a) as being unpatenable over MASUMOTO and WEI ET AL.

10 **1. Rejection of claims 1-3, 7, 9 and 10 under 35 U.S.C. 102(b):**

Claims 1-3, 7, 9 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by MASUMOTO for reasons of record, as recited on page 2 of the above-indicated Office action.

15 **Response:**

Claim 1 has been amended to contain all limitations present in original claims 5 and 6. The limitation of "the invisible-light cut filter and a direction parallel with the first lens array having an included angle about 11 to 45 degrees" contained in claims 5-6 has been added to claims 1.

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MASUMOTO disclosures an invisible-light/UV/IR cut filter perpendicular to the first lens array (Figs. 15-17). However, according to the projector taught by MASUMOTO, the most of light beams should penetrate through the invisible-light cut filter 105 at an incident angle about 0 degree so that invisible light would be
25 reflected in a reflection angle of 0 degree and passes into the reflective housing 3 along the dotted line in Fig. 15-17. Thus, the projector does not able to decrease the energy of invisible light reflected back to the light source 1 or the space inside the reflective housing 3, and cannot lengthen the lifetime of the light source module.

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According to the amended claim 1, the light source module comprises a light source for generating light beams, a first lens array positioned on a side of the light source, and an invisible-light cut filter positioned on a side of the first lens array away from the light source, wherein the invisible-light cut filter and a direction parallel with the first lens array having an included angle, and the included angle is about 11 to 45 degrees. Generally speaking, as the light beams propagate to the invisible-light cut filter, the most part of light beams passes approximately along the normal of the first lens array in the present application, and therefore the most of light beams penetrate through the invisible-light cut filter at an incident angle about 11 to 45 degrees. Accordingly, invisible light will be reflected by the invisible-light cut filter with a reflection angle about 11 to 45 degrees. Furthermore, the invisible-light cut filter of the present invention is positioned away from the first lens array so that the invisible-light cut filter can have a preferable inclination angle. Accordingly, the total amount of light reflected back to the light source or the space inside the light source housing can be reduced, and furthermore, the temperature inside the light source housing and the temperature of the light source can be effectively decreased. Consequently, the lifetime of the light source module can be lengthened and the elements of the light source module and other device of projectors can be also protected (para. [0018]).

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In other words, the structure of the present application is obviously different from the structure of MASUMOTO's disclosure, and the functions of the present application and MASUMOTO's disclosure are thereby different. Since MASUMOTO does not teach that the invisible-light cut filter and the first lens array have an included angle of 11-45 degrees, and the total amount of light reflected back to the light source can be reduced, the amended claim 1 should be allowable in consideration of 35 U.S.C. 102(b). Reconsideration of claim 1 is respectfully requested.

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Since claims 2-3, 7, 9 and 10 are dependent upon the amended claim 1, they should be allowable if the amended claim 1 is allowable. Reconsideration of claims 2-3, 7, 9 and 10 is respectfully requested.

5 **2. Rejection of claims 4 and 8 under 35 U.S.C. 103(a):**

Claims 4 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over MASUMOTO as applied to claim 1 above and further in view of applicant's admitted prior art for reasons of record, as recited on page 3 of the above-indicated Office action.

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Response:

The Examiner points that applicant's admitted prior art discloses a PS converter and a high-pressure mercury lamp. However, claim 1 has been amended to contain all limitations present in original claims 5 and 6. Because the structure of MASUMOTO's disclosure is different from the light source module of the amended claim 1, the combination of MASUMOTO's disclosure and a PS converter or a high-pressure mercury lamp is still different from the present application. Thus, claim 1 should be allowable in consideration of 35 U.S.C. 103(a). Since claims 4 and 8 are dependent upon the amended claim 1, they should be allowable if the amended claim 1 is allowable. Reconsideration of claims 4 and 8 is respectfully requested.

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3. Rejection of claims 5-6 and 11-16 under 35 U.S.C. 103(a):

Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over MASUMOTO in view of WEI ET AL. for reasons of record, as recited on pages 3-4 of the above-indicated Office action. Claims 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over MASUMOTO and WEI ET AL. for reasons of record, as recited on page 4 of the above-indicated Office action.

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Response:

Claim 1 has been amended to contain all limitations present in original claims 5 and 6, and claim 11 has been amended to contain all limitations present in original claim 12. Claims 5-6 and 12 have been canceled. Those limitations disclosure that the
5 invisible-light cut filter and a direction parallel with the first lens array have an included angle about 11 to 45 degrees.

The Examiner points that WEI ET AL. discloses an invisible-light/UV/IR cut filter positioned at an acute angle of 11-45 degrees to the first lens array. According to WEI's
10 disclosure, **an invisible-light reflector 38 of an image projection system 30 is positioned between the light source 32 and the first lens array 36, and nearby the light source 32 and the opening of the reflective housing 34 [Fig. 2-5]. The image projection system is installed with an invisible-light reflector for confining the exceeding invisible light, including infrared rays and ultraviolet rays, in an**
15 **accommodating space formed by a reflective housing for protecting the image projection system (para. [0009]). Therefore, invisible light are reflected by the invisible-light reflector 38 into the space inside the reflective housing according to WEI ET AL's disclosure.**

20 In contrast to WEI ET AL., **the invisible-light cut filter of the present application is installed at a position farther away from the light source, and the invisible-light cut filter and a direction parallel with the first lens array have an included angle about 11 to 45 degrees, so that most of invisible light will not be reflected into the reflective housing and not reflected to the vicinity of the light source. Accordingly, the energy of**
25 **invisible light reflected back to the light source will be effectively decreased and the lifetime of the light source module will be thereby lengthened [0009].**

Neither of MASUMOTO and WEI ET AL. teach that the invisible-light cut filter

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reduces an amount of light reflected back to the light source of to the light source housing.
**The structures of cited references reflect light beams into the reflective housing, but
the present application reduces the amount of light reflected back to the light source
surrounded by the light source housing. Accordingly, the amended claims 1 and 11**
5 should be allowable in comparison with the combination of the cited references.

Since claims 13-16 are dependent upon the amended claim 11, they should be
allowable if the amended claim 11 is allowable. Reconsideration of claims 13-16 is
respectfully requested.

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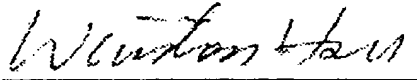
4. Introduction to new claims 17-20:

New claims 17-20 contain limitations stating that the invisible-light cut filter
reduces an amount of light reflected back to the light source and the portion surrounded
by the light source housing. All of these limitations are supported by the paras. [0007],
15 [009], and [0017]-[0018] of the specification and the drawings, and no new matter is
added. Neither of the cited prior art references of MASUMOTO and WEI ET AL teach
the limitations contained in new claims 17-20. Acceptance of new claims 17-20 is
respectfully requested.

20 Applicant respectfully requests that a timely Notice of Allowance be issued in this
case.

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Sincerely yours,



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